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Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Replacement of Part 90 by Part 88 to	)	
Revise the Private Land Mobile Radio	)	PR Docket No. 92-235
Services and Modify the Policies	)	
Governing Them	)	
	)	

To: The Commission

COMMENTS OF THE CALIFORNIA PUBLIC-SAFETY RADIO ASSOCIATION, INC.

The California Public-Safety Radio Association, Inc. ("CPRA") hereby submits the following comments in response to the Commission's Notice of Proposed Rule Making in the above-captioned proceeding, FCC No. 92-469, released November 6, 1992.

Respectfully submitted,

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SUMMARY

CPRA supports the goal of the Commission's Notice of Proposed Rule Making ("Notice") to renovate the Public Land Mobile Radio ("PLMR") bands below 512 MHz. However, CPRA believes the proposed methods to be flawed, as the proposed rules contain many new policies which will have a strong negative impact on the ability of state and local governments to provide for Public Safety communications and to take advantage of spectrum-efficient new technologies on the horizon or just now coming into the marketplace. As an example, CPRA notes that one of the objectives of the Notice is to provide for "alternative operations," including mutual aid activities. Yet the end result of implementation of the Commission's proposed Rules as presented will be the total devastation of California's existing statewide mutual aid radio systems in the 150 MHz and 450 MHz bands.

CPRA believes the Notice attempts to achieve too much too fast. The proposal actually imposes limitations on the new technologies Public Safety can implement.

CPRA firmly believes implementation as proposed in the Notice will have a disastrous effect on the quality of Public Safety communications, and the ability of governmental entities at all levels to provide needed communications systems, due to a lack of funds to implement required changes.

STATEMENT OF INTEREST

CPRA is one of the oldest Public Safety communications associations in the country. The nearly 600 members of CPRA represent all aspects and interests in the management and operation of Public Safety radio communications systems in the 10 southern-most counties of California.

CPRA is the Southern California chapter of the Associated Public-Safety Communications Officers, Inc. (APCO). As the local APCO chapter, CPRA has "hands-on" experience with the issues involved with frequency coordination for Public Safety Communications operations in all PLMRS bands within this geographical area.

INTRODUCTION

California is the nation's most populated state, with 29,760,021 residents (1990) in 156,573 square miles. Population densities vary widely, from less than one person per square mile in the National Forests to over 10,000 people per square mile in the major metropolitan areas. There are 460 cities within the 58 counties in California. The 10 southern California counties CPRA covers

Bases and Reservations, National Forests, and National Parks, each requiring ongoing interface and radio interoperability between Federal Government personnel and their counterparts in State and Local Government.

Southern California has many natural and technological hazards requiring response from the state and local governments for the protection of its citizens. These include geologic hazards

San Diego, and Oxnard-Simi Valley-Ventura urban areas. Many have unmet needs today, and the new technologies on the horizon will only increase the unmet demand. Efforts to meet these demands cannot be allowed to degrade the existing quality of communications service for the public's safety, and must allow for implementation as budgets permit.

REFARMING 72-76 MHz

CPRA supports the recommendations of both APCO and the State of California regarding the future of the 72-76 MHz spectrum. CPRA agrees that exclusive channel pairs subject to single-point coordination need to be established in this spectrum, and that channel bandwidths must support the operation controlled by the Fixed Operational stations. CPRA strongly recommends the Commission include the non-PLMR users of this spectrum in any actions taken.

REFARMING 150-174 MHz

CPRA supports the intent to provide increased spectral efficiency presented in the Notice, but is opposed to the Commission's proposed methods of refarming the 150-174 MHz band. CPRA strongly believes the proposed 5 kHz channel standard is premature. We acknowledge this is the standard in the recently created 220-222 MHz PLMRS spectrum. However, because of the lengthy process in licensing users to that spectrum and the resulting delays in system construction, there has been no demonstration of technology to provide confidence that the 5 kHz channel standard established by the Commission at 220-222 MHz is capable of providing the existing quality of Public Safety communications, much less the features required in the future.

CPRA is concerned that adoption of a 5 kHz channel standard would destroy the existing Federal / State / Local interoperability capabilities at 150 MHz. CPRA understands the NTIA recently established spectrum efficient channelization standards for Federal land mobile systems. The 1995 standard for new Federal land mobile systems is 12.5 kHz, with all Federal land mobile systems operating on 12.5 kHz channelization by 2005. This is not compatible with the FCC-proposed 5 kHz standard in the 150-174 MHz band. As a result, many years of Congressionally-mandated (and funded) efforts towards communications interoperability for the Fire Service in the 150-174 MHz spectrum may be lost, unless the industry provides dual-mode radio equipment priced within the budget of the smallest agencies.

For over three years, the APCO Project 25 team, consisting of APCO, the National Association of State Telecommunications Directors ("NASTD"), a number of Federal agencies, and the Telecommunications Industry Association ("TIA") have been developing a set of standards for digital Public Safety communications, allowing for a migration path from the existing analog, providing more channels based on increased spectral efficiency, and allowing for high speed data applications between vehicles and dispatchers. Project 25 is in the process of having these specifications adopted as an interim TIA standard. These specifications call for a 12.5 kHz bandwidth standard at this time, maintaining interoperability between Federal and non-Federal agencies.

CPRA recommends the Commission adopt a revised channel assignment plan for the 150-174 MHz spectrum based on 12.5 kHz channel spacing, with channel assignments specified along the method used in the bands above 450 MHz, and review the state of the art periodically after implementation to see if 6.25 kHz spacing is feasible.

REFARMING 421-512 MHz

CPRA strongly supports the recommendations for 421-512 MHz in the comments of APCO. CPRA-member agencies in the Los Angeles-Long Beach Urban Area have successfully implemented full-power 12.5 kHz offset operations in the 482-488 MHz spectrum under waivers granted by the Commission. These mobile relay systems are tailored to reasonably limit coverage to the geo-political boundaries of the agency, and adjacent users are geographically separated.

CPRA recommends the Commission immediately establish the lower 3 offset pairs in the 460-470 MHz band (460/465.0125, .0375, and .0625 MHz) as "frequencies available nationwide for use in mutual aid communications networks operated under statewide mutual aid communications plans," provided all new equipment meets the 12.5 kHz parameters. CPRA also recommends new systems (meeting the 12.5 kHz parameters) on 460/465.025 and .050 MHz be permitted under the same provisions. Existing Police Radio Service operations on these two pairs would be protected for a period of ten years.

CPRA further recommends the establishment of similar "mutual aid" channel pairs in the 421-430 MHz spectrum, and in each of the 470-512 MHz UHF-TV channels assigned to PLMR operations.

CPRA recommends all frequencies created by the future division of 12.5 kHz "mutual aid" channel pairs to 6.25 kHz channels remain "mutual aid" frequencies under the same provisions.

THE TWO-STEP MIGRATION PROCESS

CPRA believes the migration methods and time frames the Commission has proposed are

unrealistic. Many Southern California agencies have recently committed millions of limited dollars to upgrade their radio systems after hard-fought battles to obtain additional frequency spectrum, including the 800 MHz National Plan and UHF-TV Sharing frequencies. Other agencies are expanding in-place below 800 MHz, as their spectrum needs have been met by the "give-ups" of those moving into the UHF-TV and 800 MHz spectrum. Many late-model radios in the inventories of our member agencies use technologies which do not support the proposed reduction in occupied bandwidth, and/or the proposed frequency offsets. These radios would have to be replaced ahead of the normal depreciation schedule, at additional cost. With the current state and local government budget situations due to the recession, additional budget monies are not available in the foreseeable future. Evidence of these budget problems includes jurisdictions closing jail facilities, with the resulting early release of inmates; layoffs of field law enforcement and fire personnel; and delayed maintenance of roads and sanitation systems.

CPRA supports the recommendations of APCO and the Land Mobile Communications Council (LMCC) to the Commission, specifically to make the transition to 12.5 kHz in one step, and to revisit the issue of narrower bandwidths at a later date (CPRA opposes LMCC's Option B for the 150-174 MHz band, a one-step split to 6.25 Khz channels in 2004). CPRA feels a 10 to 15 year time frame is required to permit the amortization of equipment already purchased, and the installation of the new systems.

IMPACT TO PUBLIC WARNING SYSTEMS

As proposed, the reduction in bandwidth will severely affect the audio quality of state and local government Emergency Broadcast System (EBS) "program feeds," which utilize Part 90 frequencies in many areas. Also affected will be air pollution alert systems, Civil Defense siren

control systems, and nuclear power plant Emergency Action Zone warning systems.

IMPACT TO PUBLIC SAFETY VOLUNTEER ORGANIZATIONS

The migration proposal also fails to take into account the fiscal impact on the volunteer resources in Public Safety, such as volunteer fire districts, mountain search and rescue teams, local American Red Cross chapters, etc. These resources provide valuable services to the public by supporting state and local government, usually with limited or no financial assistance from the agencies served. The reliance on volunteers will only increase as state and local governmental budgets decrease.

B. EXCLUSIVITY.

CPRA supports the concept of exclusivity for Public Safety systems below 470 MHz. However, CPRA believes the proposed Exclusive Use Overlay process leaves room for abuse by geographically small licensees.

CPRA believes Public Safety systems should instead be covered under a Regional Planning process, such as was conducted in the National Plan spectrum under General Docket 87-112. Such a process facilitates frequency reuse, by establishing system mileage separations based on local input

C. CONSOLIDATION OF THE RADIO SERVICES AND COORDINATION.

Since 1935, CPRA has worked to resolve issues for all disciplines of Public Safety communications. CPRA has experience with the regional planning concepts used in the allocation of the pooled spectrum at 482-488 MHz in Los Angeles (TV Channel 16), including full-power use of 12.5 kHz offsets, and the spectrum at 821-824/866-869 MHz released under General Docket 87-112. This experience shows the current pool methods used at 800 MHz can work successfully in other PLMR bands.

In contrast, when dealing with the 453-458 MHz Public Safety block (with multiple coordinators involved), or in the 150-174 MHz spectrum (when the adjacent channel is one requiring the concurrence of other coordinators), CPRA's members have experienced a convoluted and expensive process. Methods and criteria for coordination vary greatly among the current FCC recognized coordinators for the Public Safety services. These coordinators do not share a common database. Without a single common database, critical coordination information is not available real-time. In many cases, coordinators require payment of additional fees for interservice coordination. Processing delays in terms of months are not uncommon.

The extremely high use of interservice sharing in all PLMR bands within the Southern California area shows the need to dynamically allocate Public Safety spectrum at the local level to meet the needs of the users in a given area.

CPRA supports the concept of consolidation of the Public Safety services, provided there is a single coordinator established for each Public Safety block of frequencies, and the Regional Planning process is used. Existing licenses would transition from the current service to "Public Safety" when modified or at renewal.

D. TECHNICAL AND OPERATIONAL RULE CHANGES.

REDUCED ERP AND HAAT LIMITS

CPRA firmly believes the proposed effective radiated power (ERP) vs. height above average terrain (HAAT) rules are unrealistic for Public Safety communications. Government is not intended to operate at a profit. Each expenditure must meet many tests to obtain scarce dollars. The proposed "just add sites" plan is cost prohibitive to implement, and does not take into account a number of factors, including:

- California's Essential Services Facilities Act, which requires special construction practices and inspections to ensure Public Safety facilities can survive disasters and still function.

- Acquisition of land and access right-of-way from the U.S. Government (USFS, BLM, DoD), State Park lands, and private sources.

- Required Environmental Impact Reports and abatements, and local zoning requirements ('no antennas' areas, antenna height limitations).

- Microwave / satellite link equipment costs, and the additional spectrum requirements for the operation of these facilities.

- Additional staff and equipment required to maintain the larger systems.

CPRA believes the proper approach to solve this problem is to use a proven approach. In the *Report and Order* for General Docket 87-112 (the 821-824/866-869 MHz National Plan channels) the Commission adopted power contour standards. The Commission also adopted the Regional Planning

concept. The power contours include a suitable "drop off" of signal beyond the edge of the jurisdiction to permit reuse. The Regional Planning bodies determine appropriate reuse criteria for a given area. The combination ensures spectrum efficiency while allowing for the wide-area systems needed for state and regional agency operations, automatic and mutual aid coordination, and travel outside of the "home" (local) area to be established as needed.

INNOVATIVE SHARED USE

CPRA opposes the proposed allocation of frequencies within the Public Safety blocks at 150-162 MHz to "Innovative Shared Use". Public Safety has a long-documented need for additional spectrum. CPRA believes all new allocations developed from the splitting of current public safety channels in the 150-174 MHz band should be assigned for exclusive public safety use. The PLMR industry is just now developing new technologies to support increased demands for RF bandwidth between a vehicle and its dispatch point. These demands include the transmission of live video, photographs, fingerprints, building layout drawings, etc. It would be premature for the Commission to mandate what modes of emission and types of data rates can be transmitted by limiting the ability to combine channels to achieve higher data rates.

TRUNKING OPERATIONS BELOW 800 MHz

CPRA supports the Commissions proposal to allow centralized trunking operations below 800 MHz. A number of CPRA-member agencies have expressed interest in trunking their existing VHF and UHF systems to increase efficiency.

MOBILE RELAY OPERATIONS BELOW 450 MHz

Mobile relay operations are critical in Public Safety. Mobile relays reduce contention between field units for open channels, as units hear when a channel is in use. This type of operation is standardized above 450 MHz. Below 450 MHz, where there is no standardization, there are literally hundreds of existing Public Safety mobile relay systems in California, especially at 150-174 MHz. Separations between a mobile relay transmitter and the associated mobile frequency vary from 220 kHz to over 8 MHz. The output of one mobile relay in San Diego may be the input of another in Los Angeles.

CPRA restates it's endorsement of the adoption of standardized 12.5 kHz channel spacing in the 150-174 MHz band, and further recommends that a pairing scheme be adopted to permit wide area mobile relay systems to operate efficiently. In addition, such pairings will reduce intermodulation products and receiver desensitization problems in and around congested communications sites.

DISASTER RELIEF ACTIVITIES

Proposed § 88.655 ("National Disaster Relief Frequency") reserves the frequency 47.420 MHz for assignment to "organizations established for disaster relief purposes" meeting specified conditions. This is introduced as a consolidation of §§ 90.41 and 90.53(b)(5). However, § 90.53(b)(5) states "This frequency is reserved for assignment only to national organizations eligible for disaster relief operations under § 90.41." § 90.41 reads substantially identical to the proposed § 88.655. The critical exception is the deletion of the word "national".

CPRA is sensitive to the needs of disaster relief organizations. These groups provide essential services to over-tasked state and local government agency personnel during time of emergency by providing for the public welfare. Years of experience with numerous wide-area disasters has shown only ONE frequency for the exclusive use of a multitude of disaster relief organizations will not provide the required level of effective communications.

CPRA recommends that 47.420 MHz continue to be reserved for assignment only to national disaster relief organizations. In addition, CPRA recommends additional spectrum in the bands above 150 MHz be reserved for disaster relief use.

SEARCH AND RESCUE ACTIVITIES

Currently, search and rescue ("SAR") organizations are licensed in the Special Emergency Radio Service ("SERS"), and must share frequencies with other SERS eligibles. Typically these organizations license on whatever frequency is available in their immediate local area, although they may obtain a statewide license. When a SAR organization is called into assist in another area on a large operation, there frequently is no interoperability between SAR organizations. In many areas there are frequency conflicts with other SERS licensees, impacting the life-safety communications of both licensees.

Through the Federal Emergency Management Agency, the Federal government has established numerous Urban Search And Rescue ("USAR") Task Forces, typically in local government fire agencies. These 56-member teams are to be deployed anywhere a major disaster is occurring for heavy rescue activities. The Federal equipment standards for these teams requires communications equipment to include the 450-470 MHz band -- yet there is no nationwide frequency allocation for

these teams in this band.

CPRA believes frequencies -- both simplex and paired -- must be set aside for the exclusive use of these SAR and USAR organizations in each of the PLMR bands under discussion. To promote interoperability, these allocations must be nationwide, without restrictions in the off-shore areas (i.e.: Puerto Rico & the Virgin Islands).

INTERNATIONAL COORDINATION BELOW 470 MHz

All along the U.S. - Mexico border, PLMR licensees routinely experience harmful, if not destructive, interference from legitimate Land Mobile operations in Mexico. Resolution of these cases is extremely difficult, as these is no agreement in place between the governments of the United States of America and the United States of Mexico covering operations below 470 MHz.

One notable case involves a mobile relay located on a large mountain along the Pacific coast in Mexico. The input to this relay monitored the U.S. national law enforcement mutual aid channel (155.475 MHz), and rebroadcast everything it heard onto 154.275 MHz, disrupting and rendering unusable the primary fire service mutual aid channel (154.280) MHz in Southern California as far north as Santa Barbara. It has taken many years of working with the Mexican government to resolve this problem. Numerous other cases involve mobile relay stations in Mexico operating reversed from their U.S. counterparts, causing feed-back loops.

CPRA commends the Commission's ongoing efforts to assist in resolving these problems. CPRA strongly recommends that the Commission take the opportunity presented in this proceeding to correct the basic problem, which is the lack of an agreement with the United States of Mexico

calling for protected operations within a specified distance of the Border. CPRA sees an opportunity to establish U.S. "primary" status on the 12.5 kHz offsets (e.g.: 154.4875, 154.5125, 154.5375, etc.) while maintaining minimal impact to Mexican operations "on channel" (i.e.: 154.500, 154.525, etc.). The agreement should be patterned after the agreements reached in the frequency bands above 800 MHz, with protection contours for a specified distance each side of the border.

CONCLUSION

CPRA commends the Commission for attempting to solve a difficult problem. CPRA must recommend, however, that the Commission slow down the process, and revisit this NPRM with a close technical evaluation. CPRA believes the Notice, in an attempt to enable the implementation of future technologies, actually limits the future technologies available to Public Safety for implementation. In fact, it appears to be too early in the development process for rules governing the technology to be written. The implementation cost to public entities must be considered and allowed for.

CPRA concurs with APCO in the need for consensus in the industry and the user community. The effects of this proposal will be felt for years to come. The Public Safety user community realizes that transition to these technologies will involve major changes to existing communications systems. CPRA believes the Public Safety community is willing to make these changes, if the Commission takes all of the opportunities available to make the transition as smooth and orderly as possible.